

CONTROL/
US OFFICIALS ONLYCLASSIFICATION ~~S-E-C-R-E-T~~
SECURITY INFORMATION
CENTRAL INTELLIGENCE AGENCY

REPORT

CD NO.

50X1-HUM

50X1-HUM

COUNTRY German Democratic Republic

DATE OF
INFORMATION 1950 - 1951

SUBJECT Economic - Communications, transmitters

DATE DIST. 29 Mar 1952

50X1-HUM

NO. OF PAGES 12

SUPPLEMENT TO
REPORT NO.

THIS DOCUMENT CONTAINS INFORMATION AFFECTING THE NATIONAL DEFENSE
OF THE UNITED STATES WITHIN THE MEANINGS OF ESPIONAGE ACT 50
U. S. C. 31 AND 32, AS AMENDED. ITS TRANSMISSION OR THE REVELATION
OF ITS CONTENTS IN ANY MANNER TO AN UNAUTHORIZED PERSON IS PRO-
HIBITED BY LAW. REPRODUCTION OF THIS FORM IS PROHIBITED.

THIS IS UNEVALUATED INFORMATION

50X1-HUM

DATA ON THE CONSTRUCTION AND OPERATION
OF RADIO AND TELEVISION TRANSMITTERS IN THE GDR

50X1-HUM

1. Nauen

The former Nauen central radio station is to be reconstructed during the period 1951 - 1955, to operate at its former capacity. Some of the buildings are still intact and will be improved. The following construction projects are planned for Nauen:

1951: Erection of a 100-kilowatt medium-wave radio transmitter, to be designated "Berlin." It is to be constructed by the VVB RFT (Federation of People-Owned Enterprises for Radio and Telecommunications), Koepenick Plant. This project involves the construction of a complete transmitter installation, a 250-meter-high radio beam tower, a reserve antenna, and a diesel-operated reserve emergency power unit. A 2-kilowatt output stage is also to be constructed as a reserve unit for the 100-kilowatt Berlin transmitter; this reserve transmitter will be given the designation "Zwilling" (Twin).

1951 - 1952: A 50-kilowatt short-wave transmitter; a double side-band transmitter for telephone and telegraph service to the Far East; a directional antenna.

- 1 -

CONTROL/US OFFICIALS ONLY

CLASSIFICATION ~~S-E-C-R-E-T~~

STATE	<input checked="" type="checkbox"/> NAVY	<input checked="" type="checkbox"/> NSRB	DISTRIBUTION																
ARMY	<input checked="" type="checkbox"/> AIR	<input checked="" type="checkbox"/> FBI																	

50X1-HUM

S-E-C-R-E-T

1953 - 1954: A 50-kilowatt single or double side-band transmitter for telephone, telegraph, and teletype service; several directional antennas. Although this project has often been started, it has always been postponed. To date, no information is available.

1953: A diesel-operated emergency power plant; its required capacity is not yet known.

1952 - 1954: A 50-kilowatt single or double side-band short-wave transmitter for diplomatic radio communications.

1955: A 10-kilowatt transmitter of above type.

1951: A decimeter-wave connecting beam from the Nauen radio station to the Berlin trunk exchange, Wilhelmstrasse. The necessary RV-82 equipment, former Wehrmacht equipment, is to be produced by the Radeberg Plant (formerly the Sachsenwerk), a subsidiary of SAG Kabel (Soviet Corporation for Cable Production).

2. Connecting Beam From Doeberitz to the Berlin Trunk Exchange, Wilhelmstrasse

Construction of the connecting-beam antennas in Doeberitz and at the Berlin trunk exchange was completed by the end of 1950. The RV-82 equipment was delivered only recently.

This beam will at first be operated on an experimental basis. Later, it will go into full operation, to relieve the Berlin trunk exchange - Doeberitz trunk cable of some of its traffic. As yet there has been no practical experience in this field.

3. Potsdam/Golm

A 20-kilowatt land transmitter in Potsdam, and a 2-kilowatt output stage, which is to be used as a reserve transmitter, are scheduled for construction.

4. Beelitz Radio Receiving Station

This station is to be constructed for commercial radio-communication service; the type of equipment is not yet known.

5. Koenigswusterhausen Radio Transmitting Station

The following are scheduled for construction: 60-kilowatt long-wave transmitter; 2-kilowatt output stage to be used as a reserve transmitter for Berlin; two 20-kilowatt short-wave transmitters for radio broadcasting; two (or three) short-wave transmitters, 10 and 20 kilowatts, for commercial services.

Beelitz is to be the receiving station for the Koenigswusterhausen transmitting station. The transmitters in Koenigswusterhausen can be operated by remote control from Beelitz.

6. Berlin Transmitter, Broadcasting Station in Berlin-Charlottenburg, Masurenallee

To prevent possible sabotaging of the cable lines, it is planned to construct a connecting-beam installation, with two RV-82 apparatuses, to bypass the modulation cable from the broadcasting station to the trunk exchange on Dottistrasse.

- 2 -

S-E-C-R-E-T

50X1-HUM

S-E-C-R-E-T

However, it is understood from unofficial inquiries made of the State Planning Commission, and from discussions with the Radio Department of the Ministry of Postal Affairs and Telecommunications, that large studios for the Berlin transmitter are to be provided in Adlershof, in connection with the reconstruction of the Heinrich Hertz Institute in Adlershof.

It is also planned to construct a television studio in Adlershof; however, this appears doubtful at present, because the television program is not included in the Five-Year Plan of the Ministry of Postal Affairs and Telecommunications.

An alternate studio for Berlin radio broadcasting is located in Grue-nau; it is to be expanded and improved in 1951.

The Dottistrasse trunk exchange is to undertake the integration of the programs.

There are connections from there [trunk exchange?] to Leipzig I and II (each of the broadcasting transmitters is 100 kilowatts), and to the Land transmitters (each 20 kilowatts) in Potsdam, Schwerin, Weimar, Dresden, and Bernburg. A modulation cable leads from the Dottistrasse trunk exchange to the Ministry of Postal Affairs and Telecommunications.

7. Government Orders

The government contract for the construction of a large radio station in Nauen was divided among the following firms:

VVB EKM (Federation of People-Owned Enterprises for the Construction of Power Plant Machinery and Motors), Turbine Plant, Leipzig

RFT - Berlin-Leipzig

ATL - Berlin-Lichtenberg, VEB (People-Owned Enterprise).

The following details are known about this project:

Capacity: two 150-kilowatt transmitters.

Type of tubes: six RS-566 tubes and four RS-720 tubes (plus two reserve or spare tubes) per transmitter; frequency not yet known.

Emergency current plant: utilizes 1,600,000 kilocalories per hour, which is the amount of heat consumed by a 900-horsepower diesel unit.

* * *

A report dated 6 July 1951 contains the following information on radio transmitter stations for the Ministry of Postal Affairs and Telecommunications. The date of information given is the end of June 1951.

1. Nauen Radio Station

Recently, the SKK (Soviet Control Commission) ordered that construction work on the new 100-kilowatt transmitter be suspended. It is reported that the Soviets plan to use the Nauen radio station for other purposes.

- 3 -

S-E-C-R-E-T

50X1-HUM

S-E-C-R-E-T

2. Berlin Transmitter; Temporary Location, RFT in Koeppenick

The SKK ordered that work on this project be accelerated. At the same time, an order was issued through the Central Committee of the SED (Socialist Unity Party) to increase the capacity of the transmitter from 100 to 300 kilowatts. According to a resolution of the Minister [Ministry?], the project is being handled as a "secret government project," with the designation "Zwilling."

According to a stipulation of the SED Central Committee, this transmitter, which entails an expenditure of 12 million Deutsche marks, is to be constructed ahead of schedule, so that it can beam its Cominform programs to West Germany this year. In addition, the transmitter is to operate on a Soviet wave length, type not yet known.

3. Brocken/Harz, 250-Watt Ultrashort-Wave Transmitter

In a short time this transmitter is to start beaming broadcasts to West Germany. The frequency will be 93.5 megacycles. This transmitter, too, will beam only the "Voice of Peace" programs. At present, higher-powered transmitters cannot be constructed by the industry concerned, because these firms are overloaded with orders for the People's Police, Naval Police, and reparations.

* * *

The following information is from a report dated 7 July 1951 which contains special information on the most recent directives on commercial radio operations, according to an order of the SKK dated 4 April 1951.

The SKK has released the following transmitters for East Berlin commercial radio traffic: for traffic with Communist China, two 20-kilowatt transmitters; for traffic with Europe, one 1.2-kilowatt transmitter, one 10-kilowatt long-wave transmitter, and four 0.8-kilowatt transmitters.

The following frequencies and call letters were authorized:

<u>Call Letters</u>	<u>Meters</u>	<u>Kilocycles</u>
DHE	38.07	7,880
DHE 2	25.07	11,967
DHF	21.91	13,695
DHG	51.72	5,800
DHG 2	29.38	10,210
DHH	38.54	7,784
DHH 2	31.95	9,390
DEJ	56.23	5,335
DEM	40.34	7,437.5
DHP	44.68	6,714
DHT	57.08	5,255
DXD	43.04	69.7
DKF	17.12	17,520
DKQ	28.73	10,440
DKR	37.89	7,917.5

- 4 -

S-E-C-R-E-T

50X1-HUM

S-E-C-R-E-T

Broadcast starting times for the European traffic are as follows:

DEM - 0600 hours; operates all day as the standard transmitter for Europe.

DEG 2 - 1000 hours.

DKD - additionally, in the afternoon.

Upon request of the answering stations, additional frequencies will be established if necessary.

Broadcast starting times for the China traffic are as follows:

DKP - forenoon.

DKQ - afternoon.

DKR - night.

Remarks

The East Berlin main telegraph office has, in addition, the following wire lines at its disposal:

1. Lines to Amsterdam, Copenhagen, London, Moscow, Paris, Prague, Stockholm, Warsaw, and Vienna.
2. In Germany, lines to Duesseldorf, Frankfurt/Main, Hamburg, Hannover, Munich and Nuernberg.
3. Interzonal lines to Duesseldorf, Hamburg, Frankfurt/Main, Stuttgart, Koblenz, and Leipzig for foreign telegrams.

The 20-kilowatt transmitters for China traffic operate in the forenoon on a frequency of 17,520 kilocycles, with the call sign "DKP"; in the afternoon, on a frequency of 10,440 kilocycles, with the call sign "DKQ"; and at night, on a frequency of 7,917.5 kilocycles, with the call sign "DKR."

* * *

The following information is from a report dated 28 April 1951, entitled "Analysis of Radio Projects in the Five-Year Plan."

The Five-Year Plan provides for radio projects involving financial investments of 25,607,000,000 Deutsche marks. Of this total, 6,670,000,000 are allotted to commercial radio operations and 18,937,000,000 to regular radio broadcasting. A breakdown of these investments according to plan year is as follows (in million Deutsche marks): 1951, 14,450; 1952, 6,000; 1953, 3,167; 1954, 1,600; and 1955, 400.

The investments in commercial radio operations have become necessary in short-range broadcasting as a result of the expanding trade relations with the People's Democracies, and in long-range short-wave communications because of the relations with China. The marked increase in German maritime operations makes urgent the expansion of the coastal radio service, since an extensive increase in traffic is already beginning to be noticeable.

- 5 -

S-E-C-R-E-T

S-E-C-R-E-T

50X1-HUM

The investments in regular radio operations are urgently needed to make the broadcasts of the "Democratic Radio" accessible to all Germans. Since this particular development is of the utmost importance, it had to be made a key investment project for a limited period, while the urgently needed investments for replacements in the postal, telephone, and telegraph wire services were deferred. This project involves investments for wireless communications, the preponderate part of which, for political and economic reasons, should be accomplished during the first 3 years of the Five-Year Plan.

The planned development of television transmitters cannot be carried out within this plan period because the investment funds appropriated for 1951 - 1955 are inadequate. For this reason, the State Planning Commission was requested to transfer funds for the construction of a 10-kilowatt television transmitter from the 1952 appropriations for research and development. For the same reason, the following items must also be deferred temporarily from inclusion in the plans: additional ultrashort-wave transmitters, decimeter connecting-beam equipment, an additional 50-kilowatt single or double side-band transmitter for telegraph and telephone traffic, and the development of the continuous-wave network (Gleichwellen-Netz).

* * *

50X1-HUM

After the funds required for the planned construction projects for radio communications were estimated in August 1950, requirements arose which considerably exceeded the amount requested and allocated. For this reason all subsequent projects included in the Five-Year Plan, except those most urgent, had to be deferred. Therefore, on 23 August 1950, the Main Department for Science and Technology, Ministry of Planning, was requested to incorporate in its own plan 1,730,000 Deutsche marks for the development of a 10-kilowatt television transmitter. The ministry's reply, dated 24 November 1950, stated that a 2-kilowatt television transmitter for experimental television broadcasting could be put into operation by mid-1951, but that for a 10-kilowatt television transmitter Deutsche Post investment funds would have to be used; the Main Department for Science and Technology could undertake to provide only research funds, for the development work on the 10-kilowatt transmitter, a relay (Dezistrecke), and the antenna.

Inasmuch as the 2-kilowatt transmitter is to be regarded as an experimental transmitter, and inasmuch as there has been no experience with a 10-kilowatt transmitter, it is felt that the latter should also be regarded as an experimental transmitter on a larger scale /and that funds for it should therefore be made available from the allocation for research./

* * *

50X1-HUM

- 6 -

S-E-C-R-E-T

S-E-C-R-E-T

50X1-HUM

The radio network for the Ministry of Foreign Affairs is intended only for the purposes of this ministry. Likewise, the network will be operated exclusively by the ministry. Therefore, the necessary investment funds must also be incorporated in this ministry's plans.

For further clarification, it is pointed out that, in contrast to the above project, the short-wave transmitter for long-distance traffic (particularly with East Asia) is intended for public radio-communication service, and was therefore included in the investment plan for the Ministry of Postal Affairs and Telecommunications.

* * *

50X1-HUM

Berlin Transmitter

A 100-kilowatt medium-wave transmitter with the cover name "Zwilling" is to be constructed by the RFT Central Laboratory in Koepenick, formerly GEMA (Equipment, Machinery, and Apparatus Plant).

The propagation measurements have not yet been entirely completed. Originally, the planned location was Rangsdorf. The transmitter buildings will cost about 2,500,000 Deutsche marks. Probably the old buildings in Nauen will be reconstructed and the new transmitter installed there. The technical part of the construction will cost 4,200,000 Deutsche marks.

The old Berlin transmitter in Koenigswusterhausen-Zeesen will be operated as a reserve transmitter.

A 2-kilowatt reserve output stage will be added to the new Berlin transmitter in Nauen. In 1950, 1,170,000 Deutsche marks were paid on account for the transmitter, but the work accomplished by the RFT is negligible. The modulation stage is apparently only in the process of construction. Blueprints for the transmitter itself have not yet arrived. It is reported that the transmitter will be copied from models of other firms to a large extent, since the RFT does not have experience in the construction of large transmitters. There is a critical shortage of technical experts and of materials.

Ultrashort-Wave Transmitters

At present, further experiments are being conducted with a 200-watt experimental transmitter. The construction of the Brocken Hotel tower has been completed, and the antenna system is assembled. Experimental operations are being conducted periodically. In 1951, a 2-kilowatt ultrashort-wave transmitter (93.2 megacycles) intended primarily for traffic to West Germany will be erected there [on the Brocken Hotel]. Another 2-kilowatt ultrashort-wave transmitter will be put into operation in Berlin in 1951. The experiences of Lorenz or Telefunken, which the RFT obtained through irregular channels (through Gebhardt, according to all indications), will probably serve as the basis for the construction of the transmitter.

No more funds are available for the planned construction of five additional transmitters for Leipzig, Schwerin, Dresden, Thuringen, and Northwest Mecklenburg. The transmitters will probably be constructed by the GSW (Gesellschaftswerk in Berlin-Oberschoeneuweide, the former German General Electric Company), which also constructed the 200-watt experimental transmitter.

- 7 -

S-E-C-R-E-T

50X1-HUM

S-E-C-R-E-T1950 Transmitter Construction Projects

Two output stages, one 800 watts and the other 5 kilowatts, have been constructed for the 800-watt medium-wave transmitter on Ruegen. The transmitters are finished but not yet assembled, because they are still being used for experiments for the RFT. For this reason there is also much friction on this point with the naval police, since the latter will probably take over Ruegen. In 1951, three or four additional transmitters are to be erected on Ruegen. The 2-kilowatt Berlin transmitter (182 meters high), which was formerly located at the Postal Ministry /Ministry of Postal Affairs and Telecommunications⁷ was set up in Riebnitz in September 1950. In its place a 100-watt transmitter (former Wehrmacht transmitter, reconstructed by the RFT) is in operation at the Postal Ministry.

Two-kilowatt output stages, for use as reserve transmitters, have been erected and are in operation in Koenigswusterhausen for Radio Berlin and Dresden.

The apparatuses for the Doeberitz-Berlin connecting beam at the Wilhelmstrasse trunk exchange have not yet been delivered by the SAC Kabel's Radeberg plant (formerly the Sachsenwerk). The antenna systems have already been installed at Doeberitz and at the Berlin trunk exchange. Overhauled RV relay equipment which formerly belonged to the Wehrmacht serves as connecting-beam equipment. The apparatuses have not yet been delivered because of the stubbornness of the Soviet director of the SAC plant. The connecting-beam line is to serve as a replacement for the cable and as an experimental line.

A Panorama receiver (Siemens make) was purchased in 1950 (interzonal agreement), but has not yet been delivered. Some of the 15 special multiple-band monitoring receivers ordered have already been delivered. They will be used for radio censorship.

Television Transmitters

In 1951, an experimental transmitter with 2-kilowatt picture-sound transmission and 625 scanning lines is to be produced by the OSW for research purposes. Cost: 1,720,000 Deutsche marks.

In 1952, a 10-kilowatt television transmitter is scheduled to be constructed with research funds. Cost: 7 million Deutsche marks. The planned construction of five 10-kilowatt transmitters by 1955 for building up the television network is not feasible, because no more funds are available.

* * *

50X1-HUM

- 8 -

S-E-C-R-E-T

S-E-C-R-E-T

50X1-HUM

A. ConstructionDeutsche Marks

- | | |
|--|--------|
| 1. Setting up an ultrashort-wave antenna, including the foundations and the anchoring of the guy wires | 25,000 |
| 2. Setting up an ultrashort-wave experimental antenna on the property of the Ministry of Postal Affairs and Telecommunications | 10,000 |
| 3. Mounting the ultrashort-wave antenna on the Brocken Hotel, including structural alterations of the building to provide foundations for the tower and guy wire anchors | 12,000 |
| 4. Miscellaneous | 2,000 |
| | 49,000 |

B. Equipment

- | | |
|---|--------|
| 1. One 2-kilowatt ultrashort-wave transmitter, including power supply | 75,000 |
| 2. One quartz control | 5,000 |
| 3. One ultrashort-wave receiver | 500 |
| 4. Four measuring instruments for operational control | 2,000 |
| 5. Material for setting up power equipment | 1,400 |
| 6. Miscellaneous equipment | 2,000 |

For the Brocken Ultrashort-Wave Station

- | | |
|---|---------|
| 7. One 2-kilowatt ultrashort-wave output stage, including power supply for amplification of the 250-watt ultrashort-wave station on the Brocken Hotel | 45,000 |
| 8. Completion of the power equipment; one switch panel, including assembly | 1,000 |
| | 132,000 |

C. Assembly

- | | |
|--|-------|
| 1. Setting up the 2-kilowatt ultrashort-wave transmitter | 2,000 |
| 2. Installation of the power equipment | 3,000 |
| 3. Miscellaneous | 2,000 |

- 9 -

S-E-C-R-E-T

S-E-C-R-E-T

50X1-HUM

For the Brocken Ultrashort-Wave Transmitter

Deutsche Marks

4. Setting up the 250-watt ultrashort-wave transmitter

3,000

5. Completion of the power equipment

1,000

11,000

B. Other Expenditures

Transportation costs, tools, etc.

8,000

Total 200,000

Remarks: Since in the field of ultrashort-wave technique the development firms still have to accumulate experience on transmitters of large capacity, no data is available for calculating costs, and consequently the costs for the individual projects had to be estimated.

Technical and Operational Observations

Because of the progressive development and the accelerated erection and expansion of ultrashort-wave transmitters in the countries bordering on East Germany, particularly West Germany, the Ministry of Postal Affairs and Telecommunications has been given the assignment under the Five-Year Plan of erecting an ultrashort-wave transmitter within the GDR.

Previous experimental transmissions with a model transmitter gave very favorable results, now a 200-watt ultrashort-wave transmitter, the capacity of which can later be increased to 2 kilowatts, is to be built on the Brocken Hotel, the highest point in the GDR. Useful experience will be gained from this project for the further development of ultrashort-wave broadcasting.

Economic Observations

By setting up an ultrashort-wave radio broadcasting station with a relatively large capacity on the Brocken Hotel, the Democratic Radio will be able to close the gap in GDR coverage (Magdeburg area) which resulted from the unfavorable frequency allocations made at Copenhagen in 1950.

50X1-HUM

Deutsche Marks

- 1 main tower, consisting of an omnidirectional radio tower of variable height approximately 230 meters tall, triply guyed, complete with lightning grounding device, tower and guy wire anchors, and counterpoise (galvanized iron bands sunk at an angle 300 meters into the earth).

510,000

- 1 supplemental antenna installation, consisting of three grid towers, each 50 meters high with three T-antennas, arranged in a triangle; also the tower and guy wire anchors and counterpoise (galvanized iron bands sunk at an angle 30 meters into the earth). The grid towers come from stocks of the Ministry of Postal Affairs and Telecommunications and will be charged at the standing value.

40,000

- 10 -

S-E-C-R-E-T

S-E-C-R-E-T

50X1-HUM

Deutsche Marks

1 "dog house" (antennengleis) (special brick construction), 350 cubic meters of enclosed space to contain antenna tuning devices for the main antenna; circular	40,000
1 "dog house" (special brick construction), 250 cubic meters of enclosed space for the supplemental antenna installa- tion; square	25,000
Laying 1,000 meters of power and control cables	4,000
500 meters of radio frequency cable	25,000
1,000 meters of control cable	3,000
Tuners, condensers, coils, resistors	50,000

(Produced by the RFT Central Laboratory.)

Technical Observations

The radio tower intended to replace the present antenna (suspended in a 150-meter-high wooden tower) of radio transmitter Leipzig I (100 kilowatts) is constructed as a tower antenna (half-wave radiator). It consists of a 230-meter-high hollow tube, triply guyed and insulated at the base by a spherical insulator. The guy wires are divided into irregular lengths by special insulators to prevent leakage to ground and to prevent sympathetic vibration of the individual guy wires. The tower is fed from the bottom. The structural form is in accord with the newest developments in radio technique.

Operational Observations

At full height and including the capacity hat 15 meters in diameter the tower can serve as radiator for an assigned frequency of 500 meters. The radiation of a shorter wave length requires lowering the mast to a height roughly equivalent to one half the wave length. In contrast to the present antenna, the new tower will increase the range before the region is reached where high distortion occurs as a result of selective fading, and will thus increase the coverage after nightfall.

Economic Observations

The wooden tower erected in 1935 is showing signs of decay. The rot appears at inaccessible points, and hence a repair operation is not feasible. Before erecting the new tower and razing the old one a supplemental antenna will be installed; in the future a spare antenna will always be available whenever repairs, tests, etc., have to be made. The total efficiency of the station will be increased, since there will be no need to interrupt service. The new tower will use a type of construction not hitherto employed in such a structure: a one-piece tube instead of the former shell construction. There are great economic advantages in this method of construction.

* * *

50X1-HUM

- 11 -

S-E-C-R-E-T

50X1-HUM

S-E-C-R-E-TMajor Radio ProjectsMinor Radio Project

	PFZ 78299 971 5330	78299 971 5331	78299 971 1352
Numerical designation			
Description	Construction of a 20-kw medium-wave radio transmitter as substitute, including installation work and antennas and emergency power supply, but not including cost of tower	Construction of a 100-kw radio transmitter as supplement to Berlin station, including installation work and antennas and emergency power supply, but not including cost of tower	
Year started and completed	1950 - 1951	1950 - 1951	1950 - 1951
Planned capacity increase	20 kw	100 kw	1,720
Total estimated cost	2,000	4,000	1,720
Value of new construction	630*	1,170**	1,320***
Quarterly plans			
First quarter			130.5
Second "			447.6
Third "	630	1,170	540.7
Fourth "			201.2
Carried over from 1950 into Five-Year Plan: capacity increase	20 kw	100 kw	
Amount	1,370	2,830	

* Broken down as follows: 70 for construction; 539 for equipment; 21 for miscellaneous expenditures.

** Broken down as follows: 75 for construction; 1,072 for equipment; 23 for miscellaneous expenditures.

*** Broken down as follows: 143 for construction; 192.5 for installations; 859.5 for equipment; 125.0 for miscellaneous expenditures.

- E N D -

- 12 -

S-E-C-R-E-T